

MAR 19 2007

Docket No.: 13477-00002-US  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Edwin Andries Gerard Van Der Vossen et al.

Application No.: 10/567,980

Confirmation No.: 4140

Filed: April 24, 2006

Art Unit: 1638

For: **FUNGUS RESISTANT PLANTS AND THEIR  
USES**

Examiner: Li Zheng

**RESPONSE TO RESTRICTION REQUIREMENT**

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the restriction requirement set forth in the Official Action mailed January 19, 2007, Applicants provisionally elect Group I, claims 1-7 and 39, and the polypeptide of SEQ ID NO: 2 and the corresponding nucleic acid sequence of SEQ ID NO: 1, with traverse. Applicants respectfully traverse and strongly urge reconsideration and withdrawal of the restriction requirement for the following reasons.

**All Claims Share a Special Technical Feature.**

Because this application is a national stage filing pursuant to 35 U.S.C. § 371, unity of invention under PCT Rule 13.1 and 13.2 is the applicable standard. Unity of invention is fulfilled "when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical feature. The expression "special technical feature" shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art." (PCT Rule 13.2).

The Examiner acknowledges that inventions I-IX are linked by a Rpi-blb2 polypeptide. The Examiner however alleges that the inventions of Group I-IX do not relate to a single

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inventive concept under PCT Rule 13.1, because they lack the same or corresponding "special technical feature" which defines a contribution over the prior art, citing Song *et al.* and GenBank Accession No. AY303171. Applicants respectfully disagree that the inventions of the present application do not make a contribution over the reference cited by the Examiner.

The Examiner alleges that the RGA2 gene from *Solanum bulbocastanum* disclosed in Song *et al.* is considered to encode an Rpi-blb2 protein. The RGA2 gene disclosed in Song *et al.* rather encodes an Rpi-blb1 protein. As seen on the attached sequence alignment between blb2 (the protein of the present invention) and blb1 (the protein encoded by the RGA2 gene of Song *et al.*), the degree of identity between blb2 and blb1 is only 17.1%. Furthermore, gaps (50.2%) and the alignment clearly show that any of the identical amino acid residues are randomly distributed over the sequence. Therefore, the RGA2 gene does not code for the Rpi-blb2 protein of the present application. The Patent Office has not established the presence in the prior art of the special technical feature of Applicants' claims. Thus, the Rpi-blb2 protein, which links all of the present claims, makes a contribution to the art. Accordingly, Applicants respectfully request that the Examiner reconsider the restriction requirement and examine all the claims in one application.

The Examiner has further required an election of a single nucleotide and one corresponding amino acid sequence. The Examiner alleges that the sequences of SEQ ID NO: 1-6 are distinct and unrelated. Applicants respectfully disagree. The polypeptide sequence of SEQ ID NO: 2 is the Rpi-blb2 protein sequence and corresponds to the nucleotide sequence of SEQ ID NO: 1. As explained in the specification at page 33 lines 5-6, SEQ ID NO: 5 and 6 are genomic fragments which comprise the Rpi-blb2 gene and further regulatory elements. Further, as seen in the sequence listing, SEQ ID NO: 3 is the coding nucleic acid sequence of the Rpi-blb2 gene including an intron sequence (position 43-128) with corresponding deduced protein sequence of SEQ ID NO: 4. Thus, the nucleic acid sequences of SEQ ID NO: 3, 5 and 6 comprise the Rpi-blb2 gene of SEQ ID NO: 1 and SEQ ID NO: 2 and 4 are corresponding amino acid sequences. Therefore, SEQ ID NO: 1-6 are related. Applicants respectfully request reconsideration and request that all sequences be examined together.

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Moreover, for at least the claims of Groups I-II and IV, the claims are directed to a polynucleotide encoding Rpi-blb2 protein (Group II, claims 8-14, 22, 37-38, 40-43), to a process for producing said Rpi-blb2 protein (Group IV, claim 18), and to a process of using said Rpi-blb2 protein (Group I, claims 1-7 and 39). Therefore, all groups share the same or corresponding technical feature of the Rpi-blb2 protein, methods of making it, and methods of using it. Please note that as explained in Chapter 10 §10.13 of the PCT International Search and Preliminary Examination Guidelines, the "words 'specially adapted' are not intended to imply that the product could not also be manufactured by a different process." Thus, unity of invention is additionally fulfilled because the claims are directed to a product, a process specially adapted for the manufacture of the said product, and a process of use of said product, which are an acceptable combination of categories for unity pursuant to 37 CFR § 1.475(b)(3). Accordingly, Applicants respectfully request that the Examiner reconsider the restriction requirement and examine at least the claims of Groups I-II and IV in one application.

#### **All Groups Can Be Searched And Examined Without Undue Burden**

Furthermore, Applicants believe that there is no undue burden on the Examiner to search all groups and sequences together. The claims all share a common technical feature in the Rpi-blb2 polypeptide as acknowledged by the Examiner. The same art relevant to the Rpi-blb2 polypeptide would be relevant to the processes of making and using it. Thus, a search of the Rpi-blb2 polypeptide would be applicable to all groups.

Additionally, as mentioned above, all the sequences are related. A search of the sequence of the Rpi-blb2 gene and its corresponding polypeptide sequence would be applicable to all the sequences.

#### **CONCLUSION**

For at least the above reasons, Applicants respectfully request that the restriction requirement be reconsidered and withdrawn.

In the event that the Examiner decides to maintain the original restriction requirement, Applicants provisionally elect Group I, claims 1-7 and 39, the polypeptide of SEQ ID NO: 2 and

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the corresponding nucleic acid sequence of SEQ ID NO: 1, with traverse. In the alternative, Applicants respectfully request that at least Groups I-II and IV (claims 1-7, 8-14, 18, 22, 37-38, 39, 40-43) and SEQ ID NOs: 1-6 be examined in one application.

Applicants reserve all rights to pursue the non-elected claims in one or more divisional applications, if necessary.

Accompanying this response is a petition for a one-month extension of time to and including March 19, 2007 to respond to the Office Action mailed January 19, 2007 with the required fee authorization. No further fee is believed due. However, if any additional fee is due, the Director is hereby authorized to charge our Deposit Account No. 03-2775, under Order No. 13477-00002-US from which the undersigned is authorized to draw.

Respectfully submitted,

By 

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#####
# Program: needle
# Rundate: Tue Mar 13 16:43:06 2007
# Align_format: srspair
# Report_file: blb1.needle
#####
```

```
#=====
#
# Aligned_sequences: 2
# 1: BLB1
# 2: BLB2
# Matrix: EBLOSUM62
# Gap_penalty: 10.0
# Extend_penalty: 0.5
#
# Length: 1493
# Identity:      256/1493 (17.1%)
# Similarity:    421/1493 (28.2%)
# Gaps:          749/1493 (50.2%)
# Score: 608.0
#
#=====
```

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BLB2 mekrkdneeannslesfsalrkdaanvldflerlkneedqkavdvdlieslklktfict 60

BLB1 ----- 0
BLB2 yvqlsysdlekfedimtrkrqevenllqpildddgkdvqckylvltslagnmddcislyhr 120

BLB1 ----- 0
BLB2 sksdatmmdeqlgfillnlshlskhraekmfpgvtqyevlqnvvcgnirdfhglivnccik 180

BLB1 ----- 0
BLB2 hemvenvlsifqlmaervgrflwedqadedsqslseldeddqndkdpqlfklahlilkivp 240

BLB1 ----- 0
BLB2 televmhicyktlkaststeigrfikkletspdilreylihlqehmitvitpntsgarn 300

BLB1 ----- 0
BLB2 ihvmmeffliilisdmpkdfihhdklfdlarvvaltrevestlvrdleeklrkestdet 360

BLB1 ----- 16
BLB2 ncatlkflenieillkedlkhvylkvpdsqycfpaadplmhlhrhlddldshayai 420

BLB1 ----- 71
BLB2 alil-qagglv-k-bllldif-a-faan-----ag-ly-bd--a-prvldva-y- 462

BLB1 ----- 128
BLB2 vclilleykktkfssqseyryrpkv--l-f-ahvgrndqvkkkkafearkkfh- 501

BLB1 ----- 176
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BLB1 ----- 233
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BLB1 ----- 290
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BLB2 sklsniwkd-k--a--f--kxvllvavneqkqkqan--avlkvnasasvt 665
```

BLB1 [redacted] 341  
BLB2 [redacted] 716

BLB1 [redacted] 393  
BLB2 [redacted] 769

BLB1 [redacted] 445  
BLB2 [redacted] 821

BLB1 [redacted] 492  
BLB2 [redacted] 876

BLB1 [redacted] 543  
BLB2 [redacted] 929

BLB1 [redacted] 596  
BLB2 [redacted] 985

BLB1 [redacted] 652  
BLB2 [redacted] 1032

BLB1 [redacted] 710  
BLB2 [redacted] 1067

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BLB1 [redacted] 813  
BLB2 [redacted] 1155

BLB1 [redacted] 864  
BLB2 [redacted] 1203

BLB1 [redacted] 922  
BLB2 [redacted] 1250

BLB1 [redacted] 970  
BLB2 [redacted] 1267